

University of Rochester Summer Science Academy

JULY 9-20,2001

The University of Rochester Summer Science Academy is for exceptional high school students entering 10th through 12th grades. This program offers young people interested in biological science an opportunity to benefit from the University of Rochester faculty and facilities. The Summer Science Academy provides a challenging, intensive two-week program consisting of both guided and independent lab projects, bioethics discussion workshops, computer labs, seminars and field trips. The program emphasizes topics in microbiology and molecular biology.

Science Academy participants spend several hours each day in the laboratory. The teaching laboratory is staffed by the course director and one or two teaching assistants. Students work in pairs, as this facilitates cooperation and aids in class discussion. The experiments are designed so that some are completed in one session, while others require several lab periods to finish. Sufficient supervision and one-on-one discussions ensure that each student understands the concepts conveyed in the lab experiments. Students also conduct independent experiments using newly learned lab techniques.

Academy participants gain experience with computer applications in biology; students work with software for DNA analysis, graphics and educational development. Academy participants also use the facilities of the University of Rochester Medical Center's Miner Library.

ACADEMY GOALS

The Summer Science Academy was developed for talented high school students who have a keen interest in biological science. The goals of the Academy are to allow students to:

Learn about recent advances in genetics, microbiology, immunology, and molecular biology

Use state-of-the-art lab equipment to do hands-on experiments

Learn about important ethical issues in science and medicine

Meet other exceptional high school students

Meet scientists with a wide array of expertise



COURSE DESCRIPTION

The Summer Science Academy will allow you to learn from scientists at the University of Rochester School of Medicine & Dentistry. We will cover a number of topics in class and in lab during our 2-week program, including:

Immunology - Learn about your immune system, and how it protects you from disease.

Bacteriology - Learn about different types of bacteria, how they are used in biotechnology, and how to characterize them in the lab.

Virology - Learn about human viruses such as HIV and Ebola and how they impact our society.

Molecular Biology - Learn state-of-the-art scientific techniques involved in cloning, gene therapy, the Human Genome Project, and DNA fingerprinting.

LOCATION

The Summer Science Academy will meet Monday through Friday from 9:30 am to 3:00 pm, July 9 through July 20, at the University of Rochester School of Medicine & Dentistry.

TUITION

Tuition for the 2001 Summer Science Academy is \$450, with a limited enrollment of 40 outstanding students. **Student housing, transportation, and meals are not provided.** A very limited number of scholarships are available, and will be awarded on the basis of need and merit.

SELECTION CRITERIA

- Applicants must currently be in grades 9-12 (ages 14-18).
- Applicants must have taken at least 1 year of high school biology, or an equivalent course.
- Applicants must have a strong interest in science, as demonstrated by grades, teacher recommendation, extra-curricular activities, and personal statement.
- All application materials must be received by May 31, 2001.
- Applications will be reviewed as they are received.

OUT-OF-TOWN STUDENTS

We are unable to provide University housing for out-of-town students.

APPLICATION PROCEDURE

1. Complete the attached application form (scholarship applicants should also complete financial aid form).
2. Write an essay of about 200 words on the following topic:
What scientific question or problem would you most like to see answered in your lifetime?
3. On a separate sheet of paper, list honors, awards, positions of leadership, extracurricular activities, work, and volunteer experiences.
4. Submit a transcript of high school courses and grades, including all current grades for courses taken this year.
5. Submit a recommendation from one of your science teachers (use the enclosed form).

NOTE: Items 4 and 5 should be sent directly from your school.

Mail all items to:
Dr. Dina Markowitz, Director
Summer Science Academy
University of Rochester Medical Center
575 Elmwood Avenue, Box EHSC
Rochester, NY 14642
Telephone: (716)275-3171
Fax: (716)256-2591
dina_markowitz@urmc.rochester.edu

All application materials must be received by May 31, 2001. This includes materials sent by the applicant AND those sent by the school or teacher. It is the student's responsibility to ensure that all application materials are received by the deadline.

All complete applications will be reviewed. Students will be notified of their admission within 3 weeks of our receipt of the complete application.

Support for the Summer Science Academy has been generously provided by:

The National Institutes of Health Grant 1 R25 RR12411
National Institute of Environmental Health Sciences Grant ESO 12474
Wyeth-Lederle Vaccines & Pediatrics

University of Rochester Summer Science Academy

APPLICATION FORM

Applicant's Name _____ Age _____

Social Security Number _____ Date of Birth _____

Address _____

_____ Telephone _____

Parent's Daytime Telephone _____

School _____ Grade _____

School Address _____

_____ Telephone _____

Optional: Male Female Minority Applicant Disabled Applicant

Student's Signature _____

Parent or Guardian's Signature _____

Teacher Writing Letter of Recommendation _____

School Address/Phone of Teacher _____

Application Checklist:

- Completed application form
- Essay
- List of honors, awards & extracurricular activities
- Financial Aid Form (if requesting scholarship support)
- Transcript (sent by school)
- Teacher recommendation (sent by teacher)

FINANCIAL AID FORM · SUMMER SCIENCE ACADEMY

This financial aid application is to be completed by your **parents or guardians** and returned to us by May 31, 2001 with your application. Awards are based on financial need and may range from partial to full aid. Since we have a very limited number of scholarships available, our financial aid budget must be allocated to those students truly in need of scholarship support. All inquiries for financial aid will be confidential. Please contact the Director at (716) 275-3171 if you have questions regarding any aspect of the program or application process.

Name of Student _____

Mother's Name _____ Occupation _____

Father's Name _____ Occupation _____

1. Enclose a copy of the **first page only** of your family's 2000 Federal Income Tax return (include those of both parents if they file separately). If a 2000 tax return was not filed, please indicate your family's income for 2000:
2. If you are a minority, please indicate your ethnic group. This information is optional, but will help to determine the source of scholarship funds which the applicant may be eligible for.
3. Indicate the number of children in your family and their ages:
4. Who is financially responsible for the applicant?
 two parents (or a parent and stepparent, or two guardians)
 one parent, who is single, divorced, separated, or widowed
 other (please explain)
5. Do you expect your family's financial situation this year to be significantly different than it was last year? If so, please explain.

6. If you wish us to consider any unusual family circumstances, or other facts, please use the space below.

I/we certify that the above information and attached tax return are correct and complete to the best of our knowledge.

Mother/Guardian's signature _____

Father/Guardian's signature _____

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TEACHER RECOMMENDATION FORM

Student Name _____

School _____ Grade _____

To be Completed and Forwarded by the Applicant's Science Teacher by May 31, 2001

The student named above has applied to the University of Rochester Summer Science Academy. The Academy is a 2-week program that was developed for academically talented high school students who have a keen interest in science. The Academy's intense curriculum combines lab experiments with seminars, a bio-ethics and bio-computing workshop and independent lab projects. Your frank assessment of the applicant is an essential part of the selection process. Please make sure you complete **both sides** of this form.

Please return the completed form directly to:

Dr. Dina Markowitz, Director
Summer Science Academy
University of Rochester Medical Center
575 Elmwood Avenue, Box EHSC
Rochester, NY 14642
(716)275-3171 fax: (716)256-2591
dina_markowitz@urmc.rochester.edu

Teacher's Name _____

School/Phone Number _____

Teacher Signature _____ Date _____

BACKGROUND INFORMATION

How long have you known this student and in what context?

What are the first words that come into your mind to describe this student?

RANKINGS

Please rank this student for each of the characteristics listed below, using this numerical scale:

- 1 = One of the top few encountered in my career
- 2 = Excellent (among the top this year)
- 3 = Very Good (well above average)
- 4 = Good (above average)
- 5 = Average
- 6 = Below Average

Academic Characteristics:

- Independence & initiative
- Attention span
- Intellectual ability
- Ability to apply concepts in problem solving
- Participates in class discussions
- Potential for growth

Personal Characteristics:

- Inquisitiveness
- Creativity & original thought
- Respect for peers & teachers
- Disciplined work habits
- Maturity
- Careful with materials & equipment

Summary Evaluation

EVALUATION

Please provide us with a frank assessment of this student. Feel free to comment on academic and personal characteristics. We are particularly interested in an evaluation of the student's motivation, independence, intellectual ability, creativity, enthusiasm, maturity, leadership skills, originality, and special talents. We welcome information that will help set this student apart from other applicants.

You may use the space below, or attach a separate page to this form.

"The scientists all seemed enthusiastic about their work, and their excitement spilled over to us."



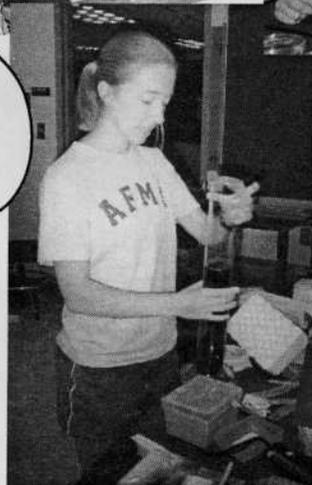
"I learned so much cool stuff. I can't wait to show my teachers."



"Great labs, they were beyond anything at school."



"I learned a lot. The most I have ever learned in a summer."



"I was awed that I was holding DNA in my hands!"



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